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Claims

1. Use of a strain of *Lactobacillus salivarius* in the preparation of a medicament for the prophylaxis and/or treatment of undesirable inflammatory activity.
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2. Use as claimed in claim 1 wherein the undesirable inflammatory activity is undesirable gastrointestinal inflammatory activity.
- 10 3. Use as claimed in claim 2 wherein the gastrointestinal inflammatory activity is inflammatory bowel disease.
4. Use as claimed in claim 3 wherein the gastrointestinal inflammatory activity is Crohns disease.
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5. Use as claimed in claim 3 wherein the gastrointestinal activity is ulcerative colitis.
- 20 6. Use as claimed in claim 2 wherein the gastrointestinal inflammatory activity is irritable bowel syndrome.
7. Use as claimed in claim 2 wherein the gastrointestinal inflammatory activity is pouchitis.
- 25 8. Use as claimed in claim 2 wherein the gastrointestinal inflammatory activity is post infection colitis.
9. Use as claimed in claim 2 wherein the gastrointestinal inflammatory activity is diarrhoeal disease.
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10. Use as claimed in claimed 9 wherein the diarrhoeal disease is associated by *Clostridium difficile*.
- 5 11. Use as claimed in claim 9 wherein the diarrhoeal disease is associated with Rotovirus.
12. Use as claimed in claim 9 wherein the diarrhoeal disease is post infective diarrhoeal disease.
- 10 13. Use as claimed in claim 2 wherein the inflammatory activity is due to gastrointestinal cancer.
14. Use as claimed in claim 1 wherein the inflammatory activity is systemic inflammatory disease.
- 15 15. Use as claimed in claim 14 wherein the systemic inflammatory disease is rheumatoid arthritis.
16. Use as claimed in claim 1 or 2 wherein the undesirable inflammatory activity is due to an autoimmune disorder.
- 20 17. Use as claimed in claim 1 wherein the undesirable inflammatory activity is due to cancer.
- 25 18. Use of a strain of *Lactobacillus salivarius* in the preparation of a medicament for the prophylaxis of cancer.
19. Use as claimed in any of claims 1 to 18 wherein the *Lactobacillus salivarius* is contained in a formulation.

20. Use as claimed in claim 19 wherein the formulation includes another probiotic material.
- 5 21. Use as claimed in claim 19 or 20 wherein the formulation includes a prebiotic material.
22. Use as claimed in any of claims 19 to 21 wherein the formulation includes an ingestable carrier.
- 10 23. Use as claimed in claim 22 wherein the ingestable carrier is a pharmaceutically acceptable carrier such as a tablet, capsule or powder.
24. Use as claimed in any of claims 19 to 23 wherein the ingestable carrier is a protein and/or a peptide, in particular proteins and/or peptides that are
15 rich in glutamine/glutamate; a lipid; a carbohydrate; a vitamin; mineral and/or trace element.
25. Use as claimed in any of claims 19 to 24 wherein the ingestable carrier is a food product such as acidified milk, yoghurt, frozen yoghurt, milk powder,
20 milk concentrate, cheese spreads, dressings or beverages.
26. Use as claimed in any of claims 19 to 25 wherein the *Lactobacillus salivarius* is present at more than 10^6 cfu per gram of delivery system.
- 25 27. Use as claimed in any of claims 19 to 26 wherein the formulation includes an adjuvant.
28. Use as claimed in any of claims 19 to 27 wherein the formulation includes bacterial components.
- 30 29. Use as claimed in any of claims 19 to 28 wherein the formulation includes a drug entity.

30. Use as claimed in any of claims 19 to 29 wherein the formulation includes a biological compound.
- 5 31. Use as claimed in any preceding claim wherein the strain or formulation is for administration to animals.
32. Use as claimed in claim 31 wherein the animal is a mammal.
- 10 33. Use as claimed in claim 32 wherein the mammal is a human.
34. Use as claimed in any preceding claim wherein the *Lactobacillus salivarius* effects changes in an immunological marker when introduced into a system comprising cells which interact with the immune system and cells of the immune system.
- 15 35. Use as claimed in claim 34 wherein the cells which interact with the immune system are epithelial cells.
- 20 36. Use as claimed in claim 34 or 35 wherein the immunological marker is a cytokine.
37. Use as claimed in claim 36 wherein the cytokine is $\text{TNF}\alpha$.
- 25 38. Use as claimed in any of claims 34 to 37 wherein the cells which interact with the immune system and the immune system cells are of matched origin.
- 30 39. Use as claimed in any of claims 34 to 38 wherein the cells which interact with the immune system are of gastrointestinal, respiratory or genitourinary origin.

40. Use as claimed in any of claims 34 to 39 wherein the cells of the immune system are of gastrointestinal, respiratory or genitourinary origin.
- 5 41. Use as claimed in any preceding claim wherein the *Lactobacillus salivarius* strain is *Lactobacillus salivarius* subspecies *salivarius*.
42. Use as claimed in any preceding claim wherein the *Lactobacillus salivarius* is of human origin.
- 10 43. Use as claimed in any preceding claim wherein the *Lactobacillus salivarius* is isolated from resected and washed human gastrointestinal tract.
44. Use as claimed in any preceding claim wherein the *Lactobacillus salivarius* inhibits a broad range of Gram positive and Gram negative micro-organisms.
- 15 45. Use as claimed in any preceding claim wherein *Lactobacillus salivarius* secretes a product having anti-microbial activity into a cell-free supernatant, said activity being produced only by growing cells and being destroyed by proteinase K and pronase E.
- 20 46. Use as claimed in any preceding claim wherein the *Lactobacillus salivarius* strain is strain UCC 118 or a mutant or variant thereof.
- 25 47. Use as claimed in any preceding claim wherein the *Lactobacillus salivarius* is a genetically modified mutant.
48. Use as claimed in any preceding claim wherein the *Lactobacillus salivarius* is a naturally occurring variant of *Lactobacillus salivarius*.
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49. Use as claimed in any preceding claim wherein the *Lactobacillus salivarius* is in the form of viable cells.

5 50. Use as claimed in any preceding claims wherein the *Lactobacillus salivarius* is in the form of non-viable cells.

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